

AMENDMENTS TO THE CLAIMS

1. (Canceled)
2. (Currently amended) A tempo analyzing apparatus comprising:
 - a frequency band extracting means for extracting a sound signal of a frequency in a predetermined frequency band from an input sound signal;
 - a volume calculating means for calculating a volume of the sound signal extracted by the frequency band extracting means;
 - a threshold setting means for setting a threshold used to detect a peak of change in level with reference to the volume calculated by the volume calculating means;
 - a peak detecting means for detecting positions of a plurality of ones, higher than a predetermined threshold, of peaks of change in level of the sound signal extracted by the frequency band extracting means, the peaks of change in level being detected in accordance with the threshold set by the threshold setting means, the positions including at least one reference position;
 - a time interval detecting means for detecting a time interval between the at least one reference position and one or more others of the positions detected by the peak detecting means in a predetermined unit-time interval;
 - an interval frequency detecting means for identifying a frequently occurring one of the time intervals detected by the time interval detecting means;
 - an identifying means for accumulating a frequency of occurrence of each time interval between the positions of peaks detected in a plurality of unit-time intervals and identifying the tempo of the sound to be reproduced with the input sound signal on the basis of a maximum one among all the accumulated frequencies of time interval occurrence, wherein when the identifying means determines that a frequency of occurrence for a time interval exceeds a value, the identifying means reduces frequency of occurrence for at least one time interval;
 - an image display device; and
 - a display controlling means for causing an image to be displayed on the image display device, the image corresponding to the tempo identified by the identifying means and not to a tempo identified using any auto-correlation calculation or beat structure analysis.

3. (Previously presented) The apparatus according to claim 2, wherein:
- the frequency band dividing means is for extracting a sound signal in a plurality of frequency bands from the input sound signal;
- the peak detecting means is for detecting the peak positions for one or more of the plurality of frequency bands extracted by the frequency band dividing means;
- the time interval detecting means is for detecting a time interval between at least one reference position and one or more others of the positions for each of the one or more frequency bands; and
- the identifying means is for identifying the tempo of sound to be reproduced on the basis of the frequently occurring one of the time intervals detected for each of the one or more frequency bands.

4. – 5. (Canceled)

6. (Previously presented) The apparatus according to claim 3, wherein:
- the volume calculating means is for calculating volumes of sound signals of frequencies included in one or more of the plurality of frequency bands extracted by the frequency band dividing means; and
- the threshold setting means is for setting a threshold used to detect a peak position with reference to the volume calculated by the volume calculating means.

7. (Canceled)

8. (Previously presented) The apparatus according to claim 2, further comprising:
- a storage means for storing video data on a plurality of images displayable on the image display device;
- wherein the display controlling means selects and reads data from the storage means and causes an image corresponding to the read video data to be displayed on the image display device.

9. (Previously presented) The apparatus according to claim 8, wherein the display controlling means controls at least one of a size, moving speed and moving pattern of an image to be displayed on the image display device which displays an image corresponding to video data read from the storage means.

10. (Original) The apparatus according to claim 8, wherein the display controlling selectively reads video data from the storage means on the basis of the tempo identified by the identifying means and sound volume calculated by the volume calculating means.

11. (Canceled)

12. (Currently amended) A tempo analyzing method comprising steps of:
extracting a sound signal of a frequency included in a predetermined frequency band from the input sound signal; and
calculating a volume of the extracted sound signal;
setting a threshold used to detect a peak position with reference to the calculated volume;
detecting positions of a plurality of ones, higher than a predetermined threshold, of peaks of change in level of the extracted sound signal, the peaks of change in level being detected in accordance with the set threshold, the positions including at least one reference position;
detecting a time interval between the at least one reference position and one or more others of the detected positions in a predetermined unit-time interval;
identifying a frequently occurring one of the detected time intervals;
accumulating a frequency of occurrence of each time interval between the peak positions detected in a plurality of the unit-time intervals;
when a frequency of occurrence for a time interval exceeds a value, reducing a frequency of occurrence for at least one time interval;
identifying the tempo of the sound to be reproduced on a basis of a maximum one among all the accumulated frequencies of time interval occurrence; and

displaying an image on an image display device corresponding to the identified tempo and not to a tempo identified using any autocorrelation calculation or beat structure analysis.

13. (Currently amended) The method according to claim 12, wherein:

the extracting step comprises extracting a sound signal in a plurality of frequency bands from the input sound signal;

the detecting positions step comprises detecting the peak position for one or more of the divided frequency bands;

the detecting a time interval step comprises detecting the time interval between at least one reference position and one or more others of the positions in each of the one or more frequency bands; and

the identifying step comprises identifying the tempo of the sound to be reproduced on the basis of the frequently occurring one of the time intervals detected in each of the one or more frequency bands.

14. – 15. (Canceled)

16. (Previously presented) The method according to claim 13, further comprising the steps of:
calculating volumes of sound signals of frequencies included in one or more of the plurality of extracted frequency bands; and

setting a threshold used to detect a peak position with reference to the calculated volume.

17. (Cancelled)

18. (Previously presented) The method according to claim 12, further comprising the steps of:
selectively reading video data from a plurality of video data stored in a storage means on the basis of the identified tempo; and

displaying the image corresponding to the read video data on an image display device.

19. (Previously presented) The method according to claim 18, further comprising the step of:
controlling size, moving speed and moving pattern of the image to be displayed on the
image display device on a basis of the identified tempo.
20. (Original) The method according to claim 18, further comprising the step of:
selectively reading a plurality of video data stored in the storage means on the basis of the
identified tempo and calculated sound volume.